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| 09/492,044 | 01/26/2000 | Gentaro Okayasu | 450100-02278 | 9377 |

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EXAMINER

HWANG, JOON H

ART UNIT PAPER NUMBER

2162

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/492,044

Applicant(s)

OKAYASU ET AL.

Examiner

Joon H. Hwang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The claims 1-10 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(a) as being anticipated by Fijita et al. (U.S. Patent No. 5,841,740).

With respect to claim 1, Fijita discloses a recording system (means to be controlled) having a hard disc array (recording means) and information relating to free storage space of the recording means (fig. 1, fig. 3, fig. 4, fig. 7, lines 35-58 in col. 5, lines 20-42 in col. 6, lines 10-37 in col. 7, and lines 13-65 in col. 8). Fijita discloses a control system (control means) for recording information in the hard disc array (the recording means) of the recording system (the means to be controlled) by controlling the recording system (the means to be controlled), and for acquiring the information relating to the free storage space of the hard disc array (the recording means, fig. 1, fig. 2, lines 50-58 in col. 9, lines 12-16 in col. 10, lines 14-21 in col. 12, line 40 in col. 13 thru line 23 in col. 14, and lines 60-63 in col. 20).

With respect to claim 2, Fijita teaches the control system (the control means) has a free space list (management information) relating to free storage space that is

synchronized with the information relating to the free storage space of the hard disc array (the recording means) of the recording system (the means to be controlled, fig. 1, fig. 2, lines 10-37 in col. 7, lines 50-58 in col. 9, lines 12-16 in col. 10, lines 14-21 in col. 12, line 40 in col. 13 thru line 23 in col. 14, and lines 60-63 in col. 20).

With respect to claim 3, Fijita teaches when discrepancy occurs (i.e., when recording is done, discrepancy occurs) between the information relating to the free storage space of the hard disc array (the recording means) of the recording system (the means to be controlled) and the free space list (the management information) relating to free storage space in the control system (the control means), the control system (the control means) synchronizes the free space list (the management information) relating to free storage space in the control system (the control means) with the information relating to the free storage space of the hard disc array (the recording means) of the recording system (the means to be controlled, fig. 1, fig. 2, lines 10-37 in col. 7, lines 50-58 in col. 9, lines 12-16 in col. 10, lines 14-21 in col. 12, line 40 in col. 13 thru line 23 in col. 14, and lines 60-63 in col. 20).

The limitations of claim 5 are rejected in the analysis of claim 1 above, and the claim is rejected on that basis.

The limitations of claim 6 are rejected in the analysis of claim 2 above, and the claim is rejected on that basis.

The limitations of claim 7 are rejected in the analysis of claim 3 above, and the claim is rejected on that basis.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fijita et al. (U.S. Patent No. 5,841,740) in view of Venkatraman et al. (U.S. Patent No. 6,505,217).

With respect to claim 4, Fijita discloses the recording system (the means to be controlled) has a plurality of hard disc devices (recording means, lines 55-65 in col. 8). Fijita discloses an operation of securing a recording area in one of the plurality of hard disc devices (recording means) in response to a command from the control system (the control means, lines 54-56 in col. 13 and lines 39-48 in col. 20). Fijita does not explicitly disclose securing a recording area in another of the plurality of hard disc devices (recording means) in accordance with a reason for a failure of the securing. However, Venkatraman discloses a placement manager that locates a recording area in another of the plurality of disk storage devices (recording means) when an operation of locating a recording area in one of the plurality of the disk storage devices (recording means) has resulted in a failure (line 53 in col. 1 thru line 5 in col. 2 and line 25 in col. 4 thru line 65 in col. 5) in order to locate the best candidate recording area for recording input data/file. Therefore, based on Fijita in view of Venkatraman, it would have been obvious to one having ordinary skill in the art at the time the invention was made to

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utilize the teaching of Venkatraman to the system of Fijita for continuously locating another recording area when there is a failure at one recording area in order to locate the best candidate recording area for recording input data/file.

The limitations of claim 8 are rejected in the analysis of claim 4 above, and the claim is rejected on that basis.

6. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fijita et al. (U.S. Patent No. 5,841,740) in view of Schmuck et al. (U.S. Patent No. 6,032,216).

With respect to claim 9, Fijita discloses the claimed subject matter as discussed above. Fijita discloses an operation of securing a recording area in one of the plurality of hard disc devices (recording means) in response to a command from the control system (the control means) before actual data recording occurs, which teaches tentatively/temporarily securing (lines 54-56 in col. 13 and lines 39-48 in col. 20). Fijita does not explicitly disclose second information relating to free storage space. However, Schmuck discloses an allocation manager (the means to be controlled) has an availability status with an amount of free space (second information) relating to free storage space that is to be presented to a node (the control means) by the allocation manager (the means to be controlled) and wherein when the node (the control means) locates an information recording area in disks (the recording means) of the allocation manager (the means to be controlled), the node (the control means) locates a recording area requested by the node (the control means) in the availability status with the

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amount of free space (the second information) relating to free storage space but does not change a value of the information relating to the free storage space of the disks (the recording means, lines 4-24 in col. 18 and lines 29-54 in col. 15). Therefore, based on Fijita in view of Schmuck, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Schmuck to the system of Fijita for the availability status with the amount of free space relating to free storage space in order to maintain integrity of the disks in a shared storage system.


With respect to claim 10, Fijita teaches when there is a difference (i.e., when recording is done, there is a difference) between tentatively secured recording area (the free space list relating to free storage space) and a recording area that has been used actually (the information relating to the free storage space) by the control system (the control means), the control system (the control means) synchronizes the free space list (management information) relating to free storage space with the information relating to the free storage space of the hard disc array (the recording means, fig. 1, fig. 2, lines 10-37 in col. 7, lines 50-58 in col. 9, lines 12-16 in col. 10, lines 14-21 in col. 12, line 40 in col. 13 thru line 23 in col. 14, and lines 60-63 in col. 20). The limitations of claim 10 are rejected in the analysis of claim 9 above, and the claim is rejected on that basis.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joon H. Hwang whose telephone number is 571-272-4036. The examiner can normally be reached on 9:30-6:00(M~F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joon Hwang
12/10/04



JEAN M. CORRIELUS
PRIMARY EXAMINER